

FOREST MANAGEMENT UPDATE

NUMBER: 9

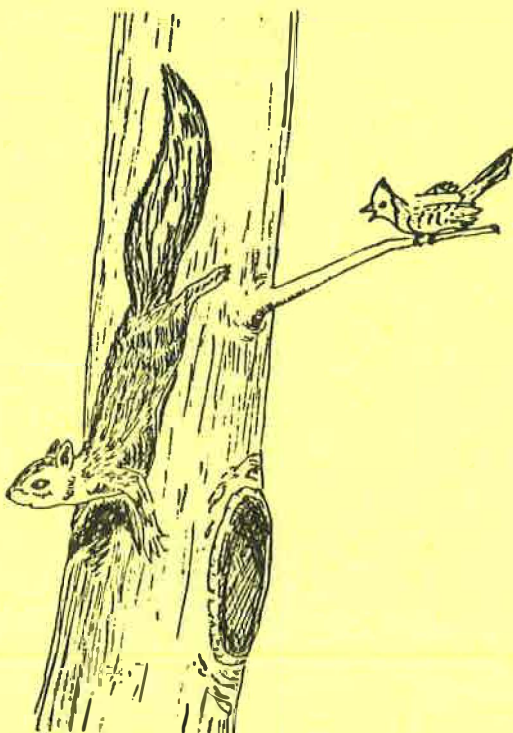
DATE: January, 1989

IF WE ALL PULL TOGETHER, HOW HAPPY WE'LL BE
by
Arlyn W. Perkey

That's an old Sunday School song that is as true now as it was years ago when I sang it as a child. Its application is even valid in the woods where foresters and landowners have the opportunity to "pull together" with the squirrels and blue jays to the benefit of all.

In Issue 8, I indicated that we need to look for ways to use silviculture to produce wildlife and aesthetic benefits, as well as timber benefits. Well, here is some information you may want to put in your toolbox and pull out at the appropriate time.

In many areas, foresters have difficulty establishing adequate oak regeneration. In cases where acorn production is one of the limiting factors, foresters may improve their chances for success by cooperating with the forest creatures, and practicing a little wildlife management as well as silviculture. This is the way it works:



1. The forester does a crown touching release on 3 or 4 sides of hard mast producing trees selected according to the criteria for wildlife crop trees (at least 10 inches DBH with large, healthy crowns). When released, these vigorous crop trees will produce more hard mast (food) to benefit squirrels and jays, as well as many other species of wildlife.

2. The forester retains already suitable and potential den trees for squirrels.

3. The squirrels and blue jays take it from there.

FOR
SERVICE
FORESTERS
&
CONSULTANTS



The increased food supply for squirrels and jays, and the improved cover for squirrels, enables the population of both species to expand. This not only produces a wildlife benefit for the landowner, but also a timber benefit by improving the probability of successfully establishing oak regeneration since jays and squirrels are two of the best dispersal agents for acorns.

Jays may actually do a more effective job of dispersing acorns than squirrels because they transport nuts long distances from the parent tree. There is some evidence that jays prefer open sites or edge communities to cache acorns. Individual jays disperse and bury hundreds to thousands of nuts during each collection season. An especially important finding is that jays collect and disperse only sound acorns, which results in dispersal of seeds of the highest quality with the greatest chance of germination.



Gray and fox squirrels scatter their winter food supply over a large area of ground, but usually within just a few hundred yards of the source trees. When young, squirrels must learn to discern sound nuts from bad nuts. Smell plays a part in their ability to recognize the difference. After burying nuts, they do not remember the specific location where each and every one is buried; only the general area. The squirrel uses his sense of smell to locate the caches, but sometimes overlooks some of the acorns. If some are forgotten or if the squirrel is killed by a predator or hunter, the nuts or acorns remain buried. So while storing a winter food supply, squirrels are also planting trees, thus in their own way helping to regenerate the forest. They also disperse acorns to sites with potentially better growing conditions than is afforded at the competitive site beneath the seed tree crown.

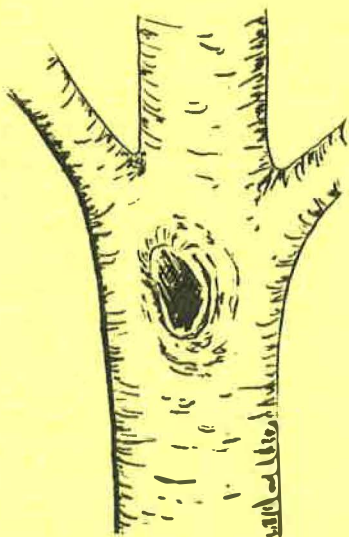
What else can we, as foresters, do to benefit squirrels and blue jays so they not only provide an additional wildlife benefit, but also improve the probability of obtaining oak regeneration?

For jays, the best thing we can do is simply increase hard mast production. This is done by releasing those trees with the best potential to respond and yield more acorns. There is no need to manipulate cover since jays are very flexible in their requirements.

However, with squirrels, there is an opportunity to increase the carrying capacity of the woodlot by managing the cover. Squirrels prefer the red oak-white oak-hickory forest type. Their favored foods include the mast of hickories, oaks, beech, black walnut, black cherry, maples, elm, and buckeye. The key to squirrel management is species diversity.

It is best to manage squirrels on a 20-acre minimum size tract. A reasonable goal is to achieve a fall density of at least one (1) squirrel per acre. Favor trees that will produce a variety of mast in quantities to support the population. Be sure to also address the need for adequate shelter. Retain trees having existing cavities suitable for dens and look for others with potential to develop future homes for squirrels.

Shelter may be in the form of a natural cavity or an artificial nest box. Three types of shelters are known to be used by squirrels:



1. A cavity about 3 inches in diameter which offers good protection from inclement weather is used for raising young.

2. Another cavity, larger than 4 inches in diameter which offers no protection against the elements, is used for escape.

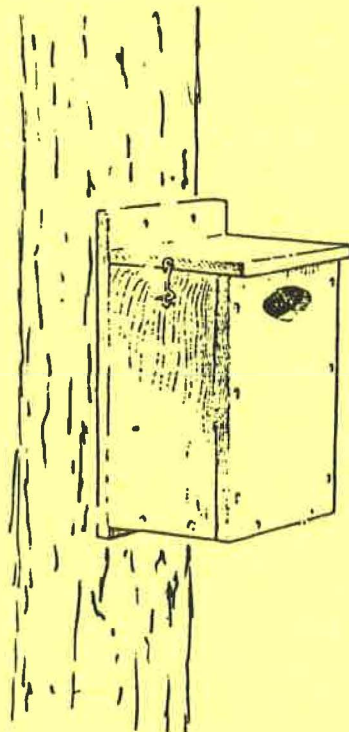
3. If cavities are not available, squirrels will build leaf nests -- usually in hickory trees or in association with grapevines. Leaf nests offer little protection and, consequently, are inadequate for rearing young.

Life of a den is about 10 years, because when the cavity becomes too large, the squirrel stops using it. It is, therefore, important to favor future cavity formation. One way to do this is by culturing species that have a higher than normal probability of forming cavities, such as beech, maples, elm, black oak, cottonwood, sycamore, basswood, and ashes.

In the absence of suitable tree cavities, landowners may elect to provide artificial nest boxes. If there are fencerows connecting woodlots, placement of 1 box per 50 yards of fencerow is usually sufficient. In a forest, place a gray squirrel box 18-20 feet high in the tree, with the hole facing away from prevailing winds. If fox squirrels are present, place boxes for females 35-40 feet high in the canopy, also away from prevailing winds. If possible, place the box close to a field edge and try to situate it so that a tree limb is close to the box. Male fox squirrels will use boxes placed below the canopy away from the stand edge.

If using even-aged management, the rotation length should be at least 100 years. When cutting, leave nest-den trees in small clumps or islands. The emphasis of any squirrel management plan should be on diversity of tree species. This not only provides for a year-round food supply, but also promotes den development since trees form cavities at different rates.

The bottom line is simply this: Don't forget our forest wildlife friends when making silvicultural prescriptions. If we look after the blue jays and squirrels, they will help us by planting oak and hickory trees, thus assuring their future and the future of our forests.



References:

1) Gray and Fox Squirrel Habitat Management Guidelines, Wildlife Inservice Document #55, April 1986, Ohio Department of Natural Resources, Division of Wildlife, by Charles M. Nixon, Illinois Natural History Survey, Champaign, IL 61820, and Robert W. Donohoe, Forest Wildlife Research and Management Project, New Marshfield, OH 45766.

2) Reproductive Mode and Mechanisms for Self-Replacement of Northern Red Oak (Quercus rubra) -- A Review, March 1988, by T. R. Crow, USDA Forest Service, North Central Forest Experiment Station, P. O. Box 898, Rhinelander, WI 54501.

SUMMARY OF LANDOWNER ASSISTANCE PROGRAMS
FOR THE
20 NORTHEASTERN AREA STATES
by
Roxane Smith

The 20 states that comprise the Northeastern Area are 40% forested, mostly with hardwoods. Commercial forestland covers 162 million acres. Of this area, 104 million acres are private non-industrial forest. Presently, there are only 1,287 service, consulting, and industrial foresters assisting with the management of these lands. This breaks down to just one (1) forester for every 109,000 acres of private non-industrial forest -- a rather large ratio. The accompanying map shows the ratio of foresters to acreage by state. Maryland has the lowest ratio - one forester for every 23,100 acres of private non-industrial forestland. Missouri has the highest ratio - one forester for every 303,000 acres.

Recently, it was brought to our attention that only 20% of timber sales on private non-industrial forestland are forester assisted. State service foresters, consultants, and industrial foresters need to work together to assist landowners in forest management and timber harvesting practices so that a larger percentage of landowners will be served.

Each state has service foresters who provide varying services and assistance to private landowners. They also have their own system of referring work to private consultants. Since every state is different, this article is an attempt to summarize the forestland area, number of foresters, and the forest policies of each of the 20 Northeastern Area states.

The amount of forestland varies greatly with each state. Graph 1 shows private non-industrial forestland acreage for each of the Northeastern Area states. New York leads the others with 12.4 million acres in this category. On the other end of the scale, Delaware and Rhode Island have only 0.4 and 0.3 million acres, respectively.

Graph 2 represents the percentage of total forest area in private non-industrial ownership. The range is 93% in Illinois to 38% in Minnesota. With such large areas in the hands of private individuals, it is easy to see why foresters reach only a small percentage of the landowners.

There is a relatively small number of foresters corresponding to the vast acreages owned by private landowners. Graph 3 represents the number of service foresters, private consultants, and industrial foresters by state. Pennsylvania has the greatest total number of foresters with 165, and Delaware has the fewest with only 8. The number of state service foresters varies widely from 4 in Delaware and New Jersey to 64 in Wisconsin. Pennsylvania has the greatest number of private consultants.

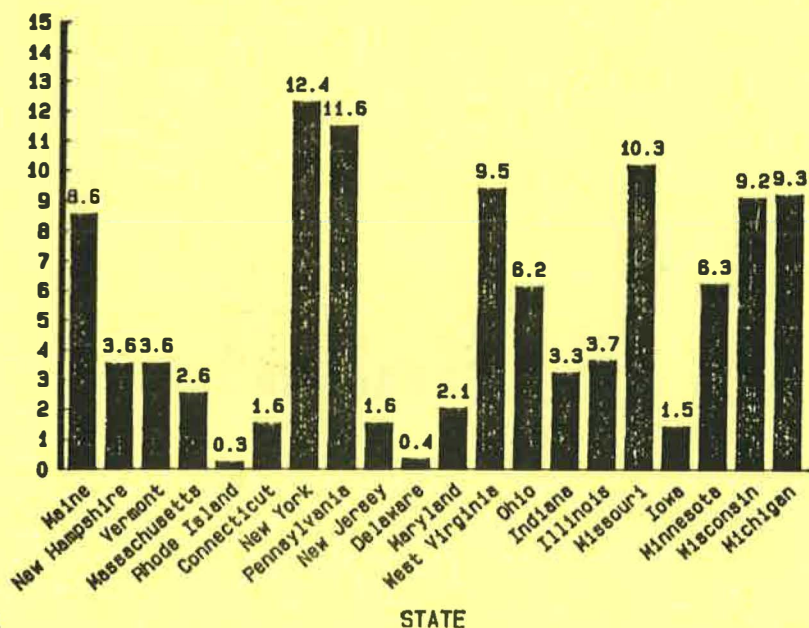
Following is a summary of each state's policy regarding landowner assistance as provided by Lloyd R. Casey of the U.S. Forest Service:

SUMMARY OF NA STATE SERVICES PROVIDED TO LANDOWNERS

State	Forest Mgmt. Plans	Planting Plans	Wildlife Mgmt.	Watershed Protection	Erosion Control	Urban Forestry Advice	Incentive Program Assistance	Timber Sales Admin.	Charges	Minimum/ Maximum Acreage	Moonlighting Restrictions
Connecticut	X	X	X	X	X	X	X				Permitted- Restrictions
Delaware	X	X	X	X	X	X	X	X		300 Maximum	No policy
Illinois	X	X	X	X	X	X	X	X			Prohibited
Indiana	X	X	X	X	X	X	X	X		Maximum 40 or 80	Prohibited
Iowa	X	X	X	X	X	X	X	X			No policy
Maine							X			Min. 10 Max. 500	Permitted- Restrictions
Maryland	X	X	X	X	X	X	X	X	\$15.00 a day		Prohibited
Massachusetts	X	X	X	X	X	X	X	X		10 Minimum	Prohibited
Michigan	X	X	X	X	X	X	X	X			Prohibited
Minnesota	X	X	X	X	X	X	X	X	5% of gross	500 Maximum	Prohibited
Missouri	X	X	X	X	X	X	X	X			Prohibited
New Hampshire							X				Prohibited
New Jersey							X				Prohibited
New York	X	X	X	X	X	X	X	X	\$4-8 an acre	25-75 Maximum	No policy
Ohio	X	X	X	X	X	X	X	X			Prohibited
Pennsylvania	X	X	X	X	X	X	X	X			Prohibited
Rhode Island	X	X	X	X	X	X	X	X		3 Minimum	Prohibited
Vermont	X	X	X	X	X	X	X	X			Prohibited
West Virginia	X	X	X	X	X	X	X	X			Permitted- Restrictions
Wisconsin	X	X	X	X	X	X	X	X			Prohibited

**PRIVATE NON-INDUSTRIAL FORESTLAND
IN MILLION ACRES
(FOR EACH NORTHEASTERN AREA STATE)**

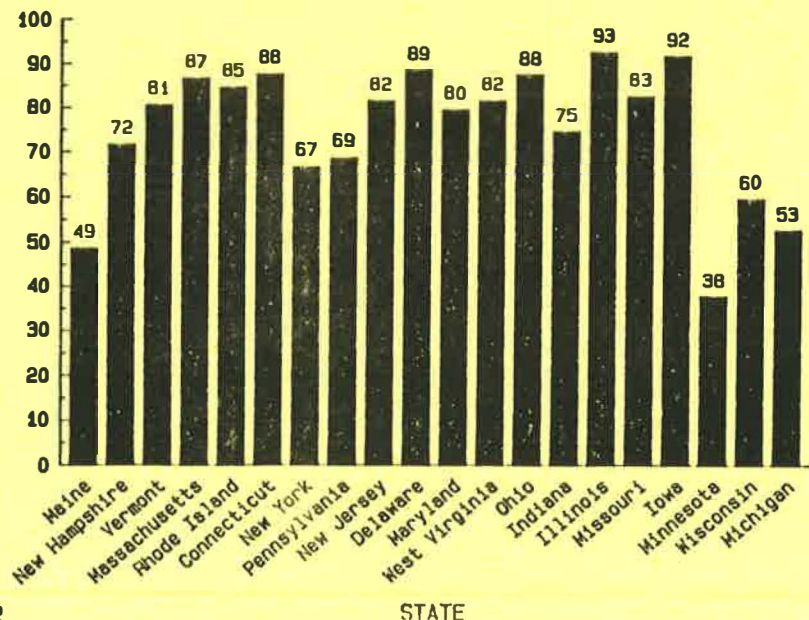
PNIF (MILLION ACRES)



Graph 1

**PERCENT OF TOTAL FOREST AREA
IN PRIVATE NON-INDUSTRIAL OWNERSHIP
(FOR EACH NORTHEASTERN AREA STATE)**

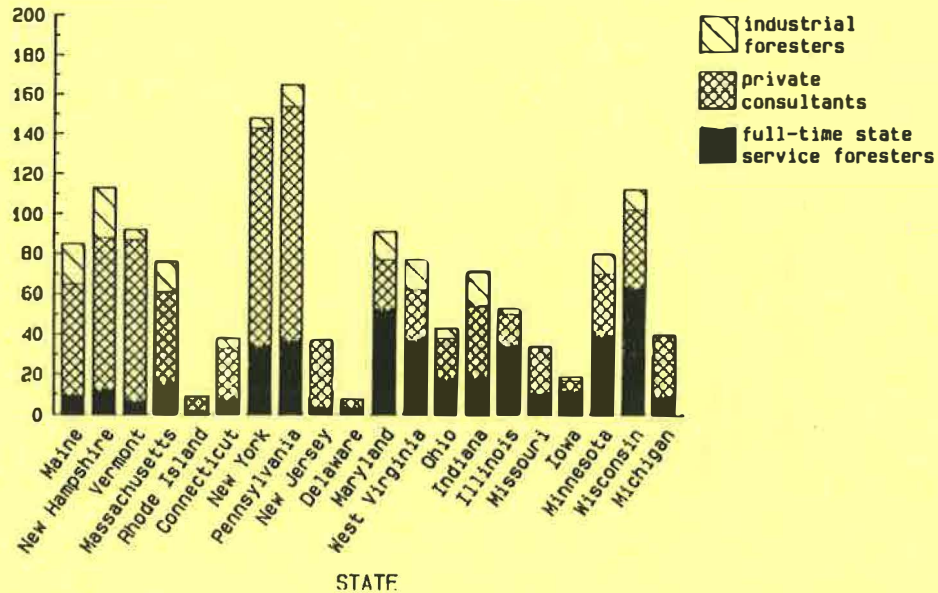
PNIF (% OF TOTAL)



Graph 2

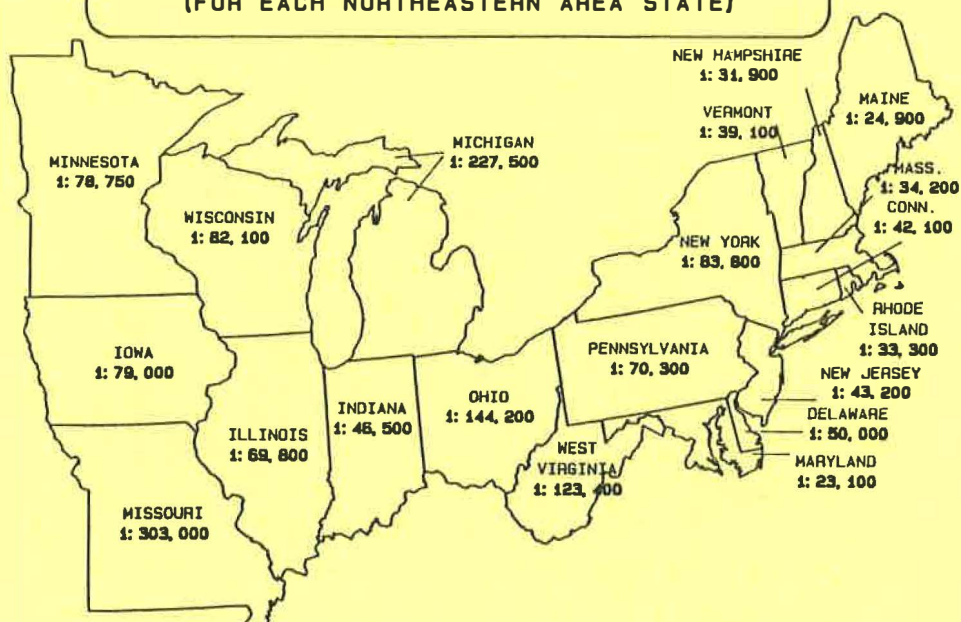
**NUMBER OF STATE SERVICE FORESTERS,
RESIDENT CONSULTANTS, & INDUSTRIAL FORESTERS
(FOR EACH NORTHEASTERN AREA STATE)**

NUMBER OF FORESTERS



Graph 3

**RATIO OF NUMBER OF FORESTERS
TO ACRES OF PRIVATE NON-INDUSTRIAL FOREST
(FOR EACH NORTHEASTERN AREA STATE)**



Consultant Forester Referral Policies of NA States

All 20 Northeastern Area states have a system by which referrals are made from a list of qualified consultants when work requests exceed a standard policy. There is a wide range in the amount of work that is referred.

New Hampshire refers all work except information and education, and incentives program assistance. New Jersey refers all work except incentives program assistance and Farmland Assessment activities.

Many states have time limits on work to be done. If the time limits are expected to be exceeded, the work is referred to a private consultant. In Maine, work that involves more than 1 day on 10 to 100 acres, or more than 2 days on 100+ acres is referred. They also refer all timber sales. In Connecticut and Ohio, all timber sales and any work that requires more than 2 days is referred. New York, Vermont, Wisconsin and Michigan refer legal and appraisal items, large timber sales, and any work requiring more than 3 days. Pennsylvania refers all timber sales and work expected to involve more than 4 days. Illinois, Iowa, Missouri, Massachusetts, Maryland, Minnesota, and Delaware refer all legal and appraisal requests, large timber sales, and land clearing operations.

A few states have special policies related to the referral of timber sales. Indiana refers work involving over 40 acres of timber harvesting (more than 2 days' work); or, for a classified forest program, over 80 acres (more than 3 days' work). In Rhode Island, all timber sales involving more than 18,000 board feet are referred. West Virginia refers over 100 acres of timber harvesting if it is within a one-year period, or 500 acres within a 5-year period.

It is evident from this summary that each state has its own policies and a varying number of foresters to carry them out. Even so, the goal of every state should be to educate and assist as many private non-industrial landowners as possible through cooperation of public and private foresters.

TREE SHELTERS: SILVICULTURAL TOOL OF THE FUTURE
FOR HARDWOOD REGENERATION IN THE NORTHEAST?

by
Dan Morrow^{1/}

Forest managers in the northeastern United States are more than familiar with the problems of successfully establishing high value hardwood stands. Naturally regenerated stands are being heavily deer browsed, virtually eliminating such high value species as northern red oak, white ash, black cherry, and yellow birch. The resulting stands of poor species composition will not offer promising sawtimber production for the future. Attempts at planting hardwoods to enhance species composition, or to establish stands, have met with failure because competing vegetation, slow early growth, and selective deer browsing have had drastic negative impacts on seedling survival.

In Britain, forest managers have been faced with hardwood regeneration problems similar to those in the United States. In an effort to overcome the regeneration difficulties, British silviculturist Graham Tuley developed the tree shelter concept in 1979. His idea was to protect young seedlings by enclosing individual plants in polyethylene sleeves which would act as small greenhouses and prevent browsing damage from rabbits and deer. The tree shelter concept has gained widespread acceptance in Britain, with over two million erected annually. It appears that survival is much improved for trees established in tree shelters.

Tree shelters provide four distinct benefits which greatly improve the chances of successfully establishing hardwood plantings:

1. British Forestry Commission experiments have shown that almost all tree species demonstrate accelerated early growth, with oak and ash especially benefiting from the enhanced environment within the tubes. Many species more than double their height growth for the first two or three years when compared to unsheltered tree growth. Much of the accelerated growth associated with the tubes seems to be related to elevated carbon dioxide levels within the tubes, which can be over two times higher than levels around unsheltered trees. Additional growth increases have been noted when the bottom edges of the shelter are sealed with soil where it comes into contact with the groundline. Higher temperatures and humidities inside the structures could also contribute to the accelerated growth. Although there are no long term study results, it appears that growth returns to normal as the crown emerges above the top of the shelter.
2. Stem development is influenced by the protective environment of the tree shelter which essentially eliminates air-movement-induced stem taper. Trees in the shelters develop a very uniform stem caliper, and the stems are usually very straight. These characteristics may have a beneficial effect on the subsequent form and quality of trees grown in tree shelters.

3. Tree shelters also aid in locating seedlings which often get lost in herbaceous competition making herbicide use difficult. Since seedlings established in the shelters are completely enclosed and easily located, herbicides can be applied quickly and safely near the base of the shelter where the chemicals are most needed.
4. One of the more important functions of the tree shelters is the control of browse damage. Since the shelters essentially isolate the seedling, maximum protection from deer and rabbit damage is afforded. In Britain, shelters four feet tall are sufficient for their smaller roe deer problems. But, with the larger deer species present in the United States, shelters five feet and possibly six feet in length may be necessary for adequate deer protection. There have been some instances of mice nesting in the shelters and damaging trees, but only where the bottom edges were not sealed.

The tree shelters were designed to be as simple as feasible. They consist of a round or square tube of translucent corrugated polypropylene plastic supported by wooden stakes to which the tube is attached by wire, plastic, or nylon clips. The shelters range in diameter from 3 to 5 inches and are available in four, five, and six foot lengths. Stakes are not provided. The structures are designed to break-down due to ultraviolet light exposure after 5 to 7 years, so an unnecessary extra visit to remove the shelter can be eliminated. The five year period is necessary to allow the tree to develop a stem thick enough for self-support.

The problem of hardwood regeneration is universally such a chronic one that inherently skeptical forest managers are recognizing the many benefits of tree shelters and putting them to use even though long term growth data is not available due to the newness of the technology. Almost every hardwood seedling planted in Britain today is established in a tree shelter. Shelters are even used on natural seedlings to insure that they become a viable component of the stand.

Tree shelters are manufactured only in Britain which, until recently, has made acquisition difficult. There is now one U. S. importer -- Forestry Equipment and Technology, Inc., Suite 105, 75 Bidwell Street, St. Paul, MN 55107, phone 612/228-0535. Costs for tree shelters are presently \$1.50 to \$2.00 each, depending on the length of the shelter, quantity ordered, and the current foreign exchange rate. Once U. S. manufacturers become interested and the use of the shelters expands, the price should drop.

As their availability increases, the use of tree shelters in the U. S. will certainly grow. The tree shelters have many potential uses in arboriculture and horticulture, and in establishing plantings on difficult to reforest, highly visible sites where planting failures cannot be tolerated due to public pressures.

The shelters may have their greatest potential use in forestry by enhancing the species composition of deer ravaged northeastern hardwood forests, which otherwise will ultimately be comprised entirely of low value species. The shelters should be able to be used in low numbers in shelterwood cuts and clearcuts due to the exceptionally high survival rates reported for trees grown in tree shelters. For any one species, it may only be necessary to use 20 to 30 shelters per acre to improve the sawtimber potential or wildlife value of a stand.

Although the final verdict is far from being in on the long term effects of tree shelters on mature growth and form, their early success in Britain certainly dictates the need for more extensive use and testing of tree shelters in the United States. Only then will it be known if forest managers do indeed have a new tool at their disposal which can aid in the establishment of hardwood stands.

Suggested Sources: Tree Shelters

- Correx Tree Shelters (formerly Grotubes)

Corruplast Ltd., Correx House, Morelands Trading Estate,
Bristol Road, Gloucester, GL1 5RZ (Tel. Gloucester (0452) 31893).

- Somerford Sheltatree

Monro, Alexander & Co., Ltd., New Lease, Great Somerford,
Nr Chippenham, Wiltshire (Tel. Seagry (0249) 720442).

- Stanton Hope Ltd., 11 Seax Court, Southfields, Laindon, Basildon,
Essex, SS15 6LY (Tel. Basildon (0268) 419141).

- Corrugated Extruded Tube

Tubex Treeshelter
Tubex Ltd., Little's Close, Colliers Wood, London SU19 2TF.

1/ Dan Morrow, Tree Improvement Specialist; Maryland Department of Natural Resources; Forest, Park and Wildlife Service; Buckingham Forest Tree Nursery; Harmans, MD 21077.

NEW TOOLS AND EQUIPMENT FOR REFORESTATION

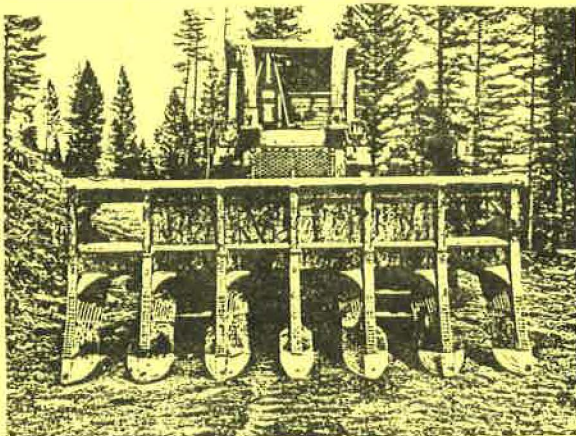
by

Brenda L. Wilkins

Forest Service engineers at the Missoula Technology and Development Center have recently developed a variety of new tools designed to make reforestation tasks more efficient and economical. A brief description of each follows:

The Salmon Blade

The Salmon Blade, an improved tractor-mounted blade designed for wildland site preparation, features plow-like attachments on each tooth which turn the soil to create varying amounts of soil disturbance. It produces a series of furrows that catch and hold seed and water and provide an ideal microsite for regeneration. After treatment, an adequate seedbed should exist for 5 to 10 years, so site preparation for natural regeneration can continue in both seed and non-seed years. The Salmon Blade effectively kills unwanted vegetation by turning over grass to expose the roots. It rescatters slash or piles it.



The recommended machine size for this blade is 95 to 130 horsepower. Production rates range from one and one-half to two acres per hour in grass cover with little or no slash, and one to one and one-half acres in moderate slash. Cost per acre in areas needing only scarification ranges from \$75 to \$85 per acre.

The Anchor Chain Scarifier

Rugged and inexpensive, the Anchor Chain Scarifier has been adapted for site preparation in post-logging operations. The heavy anchor chain effectively treats light to moderate slash and prepares the ground for natural regeneration. It features a V-bar spreader and a single-point hitch with attachment points for drag chains.



A crawler-tractor in the 100 horsepower class was used for testing the Anchor Chain Scarifier. Slopes ranged from 35 to 45 percent, and production averaged one acre per hour.

Portable Power Platform

An easy-to-operate portable power platform called the Iron Horse Wood Caddy is an off-road vehicle that transports equipment and supplies and provides a lightweight power source for operating implements and hand-held tools. This machine can be operated by one person and will safely climb a 60 percent slope and operate on a 35 percent grade.

Application for forestry work seems unlimited because the roller, winch, and trailer can accomplish most tasks associated with precommercial thinning, slash disposal, and release cutting. Delimbing and yarding operations are simple even in tight spots and, because of the low ground pressure, the Iron Horse is well suited for operating on soft ground or in environmentally sensitive areas.

This vehicle can easily transport seedlings, tools, or heavy bulky materials in and out of the woods in addition to providing a portable power source that can operate accessories by direct drive or electrical generation.



MTDC engineers are currently modifying the Iron Horse to make it even more versatile. A steel mounting platform is being added to the load bunks, to accommodate a brush chipper and a spray applicator for applying herbicides. These modifications may also accommodate power scalpels, scarifiers, tillers, flail trenchers, nordic trail track setters, snow plows and snow blowers, planting augers, interseeders, hydroseeders, seed blowers, water pumps, and mulchers.



Portable power platform transports equipment and powers hand-held tools.

Accessories:

- Flat bed load box
- Seedling frame
- Hand winch
- Chain saw scabbard
- Roller for loading and delimbing
- Felling stand with roller
- Head lamp
- Trailer
- Back Hoe

Hammer-Action Hand Planter

Although commercial hand planters perform well in ideal soil conditions, the operator continuously absorbs the shock while operating the auger in rocky soil. The hammer-action hand planter has been designed to plant seedlings in areas where rocky soil impedes planting.



Hammer-action uses an inner staff with a tool head attached. The hammer head and handle/slider tube encase the staff. The operator simply raises the handle/slider tube the length of the staff and slams the hammer head down against the staff stop. The force generated drives the tool head into the ground to create a hole for planting.

Planting Auger



The cone-shaped auger easily penetrates rocky soils.

Another tool developed for planting seedlings in rocky soils is a cone-shaped, power-driven auger which has proved very effective. Seedlings planted with the tapered auger have achieved a 90 percent survival rate after 5 years.

The auger is 30 inches long, has a bit length of 12 inches, and weighs seven and one-half pounds, which is a weight comparable to commercial augers. Commercial production of the cone-shaped auger is anticipated.

For further information on all these resource tools, contact Dick Hallman, Resource Planner at the Missoula Technology and Development Center, Bldg. 1, Fort Missoula, Missoula, Montana 59801, Phone: (406) 329-3946.



ANNOUNCEMENTS

The New Hampshire Department of Resources and Economic Development has tested a procedure for estimating cut volumes as an alternative to ocular estimation. The "Quick Cruise" sampling technique reconstructs a cutover tract and provides a quick and rough estimate of cut volumes.

"Quick Cruise" is divided into six steps:

1. Prepare a map of the cruise area by sketching it from an aerial photo or completing a compass and pace traverse around the boundary.
2. Determine acreage of cruise area by dot grid or by drawing a map on graph paper, counting the squares, and multiplying by the appropriate converting factor. A list of converting factors is provided.
3. Using the guidelines provided, determine the size and number of sample plots.
4. Locate sample plots using a grid pattern for spacing.
5. Locate plot center, mark bounds with flagging, and collect tree data. Record stump diameter for each cut stump, and determine the average merchantable height by species for the plot.
6. Determine volume estimates using a computation sheet provided in the cruise procedure package. Average height is used as a basis to determine a volume basal area ratio for each species. This ratio is multiplied by the average basal area/plot times a plot factor to determine volume/acre. The volume/acre must be multiplied by the number of acres in the tract to obtain the total volume for each species.

If you would like to receive the complete "Quick Cruise" package, write to:

Thomas Miner
Chief, Forest Management
Division of Forests and Lands
P.O. Box 856
Concord, New Hampshire 03301

Tom is interested in hearing from you after you have had a chance to try the quick cruise procedure. Please let him know how you liked it, and pass along any comments or suggestions you may have.

Mike Prouty, NCFES, wishes to announce a videotape titled, "Christmas Tree Diseases". This 20-minute video describes more than 15 different diseases affecting Christmas trees commonly planted in the North Central and North East United States. Viewing "Christmas Tree Diseases" will help the grower, nursery manager, horticulturist, extension agent, forester, and student to quickly identify pests in the field. They will also learn how to reduce and prevent damage from disease and other pest problems.

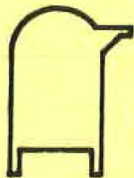
To receive a copy of this videotape, send a **NEW, BLANK, VHS** videotape for each copy ordered to:

Information Services
North Central Forest Experiment Station
1992 Folwell Avenue
St. Paul, MN 55108
Telephone: (612) 649-5000

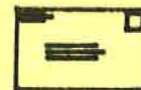
The videotape and manual will shortly be supplemented by a brochure called, "A Pocket Guide to Christmas Tree Diseases".

The companion to the videotape "Christmas Tree Pest Manual" is available from the U. S. Government Printing Office, Washington, D.C. 20402 at \$14 a copy.

Enclosed with this issue is a new brochure entitled, "How to Release Crop Trees in Precommercial Hardwood Stands". It describes application of the crop tree release concept in precommercial stands where trees are at least 25 feet high. Many of the same principles, such as crown touching release, apply in both precommercial and commercial size stands. A primary difference is the number of trees to be released per acre. In commercially operable stands, fewer trees should be released. The diagrams in this brochure can be used to explain the concept to landowners regardless of the size of the crop trees. Additional copies are available upon request.

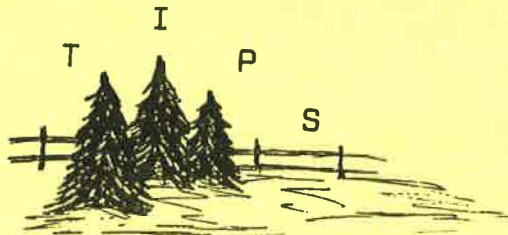


COMMENTS FROM OUR READERS . . .



Timothy A. Acker of Bath, PA, offered the following comment in response to last issue's article entitled, "Crop Tree Release -- How Well Have We Done?"

. . . Your points on page 8 are well taken; however, to these I would add one more. I think marking trees to leave has much to recommend it, not the least of which is that it focuses our attention on the crop trees. In addition, provided there is a market for poletimber (4-6"+), marking to leave is usually more economical in terms of both paint consumed and time expended. One need only sample the stand to determine the relative numbers of trees to cut or leave -- I usually do this when I'm running boundary lines. The only negative feature of this method is the unnatural appearance of painted trees. Nonetheless, I recommend that this method be used with confidence because of the results I've achieved with it.



TIP #6:

James A. Burns, President of Burns Forestry Consultants, Mellen, WI, uses a good technique for communicating the benefits of forest management to his clients. He has prepared a write-up which includes examples of actual results achieved on lands he has managed. These case histories illustrate the earning capacity of managed hardwood stands on a dollar/acre/year basis. The examples Mr. Burns cites range from \$10.83/ac./yr. on an 80 acre tract that, prior to management, was losing money every year, to \$97.68/ac./yr. for a 320 acre sawtimber sized stand growing on an excellent site.

This technique is a good means of informing clients of the potential value of their forestland. Most landowners can easily relate to benefits expressed in dollars/acre/year because the taxes they pay on their land are assessed in this way.

SHARING INFORMATION



We invite participation in the development of future issues of FOREST MANAGEMENT UPDATE. The intent of this periodical is to provide a means of technical communication for professional foresters managing the private non-industrial forests in the Northeastern Area. The majority of articles printed in the Update address technical forestry subjects of interest to readers in a reasonably broad geographic area. If any of our subscribers would like to submit articles for publication, please feel free to contact me at the address and phone number listed below.

FOREST MANAGEMENT UPDATE

<< A TECHNOLOGY TRANSFER PERIODICAL >>

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